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Biotechnology Notes

Volume 7 • Number 5

U.S. Department of Agriculture

May 1994

Biotechnology Notes, a compilation of agency activities, news events, and upcoming meetings, is prepared for members of the U.S. Department of Agriculture's (USDA) Committee on Biotechnology in Agriculture (CBA) by USDA's Office of Agricultural Biotechnology (OAB).

INSIDE USDA

ABRAC MEETING POSTPONED

USDA's Agricultural Biotechnology Research Advisory Committee (ABRAC) will not meet May 18-19 because of a delay in the re-chartering process. A new date will be announced in the next few months. For more details, please call the Office of Agricultural Biotechnology (OAB) at 703-235-4419; Fax: 703-235-4429.

The ABRAC reviews research proposals and develops recommendations concerning the biosafety aspects of proposed research projects. The Committee also provides advice to the Secretary of Agriculture regarding agricultural biotechnology.

ABRAC members are selected for their knowledge and expertise in various disciplines, including plant science, veterinary/animal science, entomology, fisheries science, forestry, ecology, microbiology, food science, law, public health, and bioethics. Members serve two-year terms.

ANIMAL BIOTECHNOLOGY: A BUMPY ROAD AHEAD?

Translating animal biotechnology research advances into real products is slow going, according to a number of people who attended an international workshop on animal biotechnology issues, April 6-9, in Davis, California. A major reason seems to be the lack of public support for research that involves the genetic modification of animals. On the other hand, the research itself is proceeding rapidly in government, university and company laboratories.

Participants analyzed the latest advances in recombinant vaccines research, the animal genome project, transgenic farm animals, regulatory programs, and risk communication programs. Of particular note was the presentation, "Lessons We have

Learned from BST" given by James Lauderdale of The Upjohn Company, Kalamazoo, Michigan.

Lauderdale said he learned that alliances between industry, academia, and government can be fruitful and result in quality science. He said he learned the importance of being more outspoken about a product during the early stages of development. Other "lessons" include learning to communicate in plain English and in short sound bites. He said it is also important to be prepared to discuss non-scientific concerns, such as social and economic issues. He said his experience with BST confirms that the scientific review system for the approval of products works.

The workshop was sponsored by the University of California, Davis; the Ministry of Agriculture, Fisheries and Nature Management of The Netherlands; the Swedish Council for Forestry and Agricultural Research, and USDA. Proceedings will be published.

NEWS AROUND THE NATION (AND THE WORLD)

NEW TOMATO ON BRINK OF COMMERCIALIZATION

The Food and Drug Administration's (FDA) Food Advisory Committee met April 6, 7, and 8 in Herndon, VA to discuss the safety evaluation of whole foods like the FLAVR SAVR tomato, developed using recombinant DNA techniques. Most Committee members agreed that the tomato has been adequately tested and is safe for consumers. According to FDA official James Maryanski, "FDA won't accept any foods from plants that are any less safe than food currently in grocery stores." He added the agency is considering proposing mandatory pre-market notification so the agency can monitor how its policy holds up as new technology comes on line.

Several consumer activists voiced opposition to approval of the Calgene tomato. They said FDA has not responded to letters consumers sent in regarding its food policy, and in particular, the matter of labeling the new products of biotechnology. Opponents also said the issue of allergenicity of new foods has not been adequately addressed as well as a policy concerning premarket notification.

FDA Administrator David Kessler said, "The ultimate question for the American public is -- is it safe?" He assured the Committee that their recommendations as well as the comments from the general public will be seriously considered before FDA makes a final determination. He also said FDA will soon clarify its policy on premarket notification of genetically modified foods.

EPA APPROVES TEST MARKETING OF NEW MICROBE

This spring farmers across America will test market a new alfalfa seed that contains a genetically engineered bacteria called *Rhizobium meliloti* and compare it with traditional alfalfa seeds to see if they (the *Rhizobium*) improve yield quantity and quality. The test marketing has been approved by the Environmental Protection Agency (EPA).

The altered seeds were developed by Research Seeds Inc., St. Joseph, MO and have been tested for six years inside a greenhouse and another four years outdoors. EPA said the more extensive field trials will not pose an unreasonable risk to human health or the environment.

Rhizobium, which is often penned "the work-horse of agriculture," belongs to a family of bacteria that exists in the soil. Farmers have used the microorganism for centuries to help boost crop yields. The bacteria work their miracle by first attaching themselves to a plant's roots and establishing little huts, or nodules, where they live. While the plant provides the *Rhizobia* a home and food, the *Rhizobia* in turn converts atmospheric nitrogen into a form which the plant can use. Such a relationship in which both parties benefit is called symbiotic. The difference between standard *Rhizobia* and the genetically engineered ones that EPA has approved for test marketing is the engineered ones contain additional copies of its own genes. The added gene copies let the organism convert atmospheric nitrogen at an increased level and therefore increase alfalfa yields.

The field trials will take place in eight states: Wisconsin, Minnesota, Iowa, Nebraska, South Dakota, North Dakota, Montana, and California. To learn more, please call David Giamporcaro at EPA at 202-260-6362.

BST HOTLINE IN CANADA

A BST (bovine somatotropin) information line has been set up by the Canadian Animal Health Institute. The number is 800-363-3613.

TEACHER'S KIT FOR BIOTECHNOLOGY

A kit is now available that helps teachers explain to students the controversial issues surrounding genetic engineering. The kit includes videos, print materials, and practical exercises. It was designed by an Australian research organization. Teacher supervision is recommended. For details write to CSIRO Publications, P.O. Box 89, East Melbourne VIC 3002, Australia or call 61-3-418-7217; Fax: 61-3-419-4096.

LEARNING THE BASICS OF BIOTECH

A new 2-page fact sheet on transgenic plants is available from Ag-West Biotech Inc., Saskatoon, Saskatchewan, Canada. It covers transgenic techniques, plant quality and uses, insect tolerance, and herbicide tolerance. It is written in plain English and is intended for consumers, students, and anyone else who wants to learn the fundamentals of agricultural biotechnology. To receive a copy, please write to Westcross House Publication, 608 Duchess Street, Saskatoon, Sk; Canada S7K 0R1 or call 306-934-1772; Fax: 306-664-6615.

IN CASE YOU WEREN'T THERE

■ **OAB Deputy Director Daniel Jones** discussed "Federal Funding of Biotechnology Research in the Food, Agricultural, Energy, and Environmental Sciences," April 26, at the Pennsylvania Biotechnology Association, Philadelphia, PA. Jones said the total investment in biotech research for FY '94 is about \$4.3 billion with health receiving the biggest piece of the pie (41%). Agriculture accounts for about 5%, manufacturing/bioprocessing for 4%, environment for 2%, and energy for 1%. He said the total investment in biotechnology research for USDA in FY '94 is \$170 million.

According to Jones, USDA's biotech research mission targets new and improved methods to supply nutrients to crops, new and improved crops that resist pests and diseases, more productive and environmentally friendly methods of crop and livestock production, and processing technology that protects the environment while improving the quality and safety of food for consumers. To receive a copy of Jones' remarks, please send a fax to 703-235-4429.

NEW PUBLICATIONS

■ "Canadian Biotech '92: Towards Realization." Published by Ernst and Young. 1993. To order call 416-882-3017.

■ "New World Plants and Their Uses: A Guide to Selected Literature and Genetic Resources 1980-1993." Prepared by USDA's National Agricultural Library. Compiled by J. Meil and the Plant Genome Data and Information Center. 1993. To order call 301-504-6875.

- "Technology Transfer." Prepared by the U.S. Department of Energy. January 1994. To order call 703-487-4650.
- "DOE New Technology: Sharing New Frontiers." Prepared by the U.S. Department of Energy. December 1993. To order write to the U.S. Department of Commerce, Technology Administration, National Technical Information Service, Springfield, VA 22161.
- "The USDA-ARS Plant Genome Research Program." Prepared by USDA/ARS. March 1994. To receive a copy, please write to Jerome Miksche, USDA/ARS, Room 331C, Building 005, BARC-West, Beltsville, MD 20705.
- *Biotechnology in Agriculture, Forestry and Fisheries*. Published by the United Nations Food and Agriculture Organization. For a copy write to Publications Division, FAO, United Nations, Viale delle Terme di Caracalla, IT-00100 Rome, Italy.
- "Most Commonly Asked Questions About Food Biotechnology." An 8-page leaflet prepared by the University of California at Davis. To order please call Christine Bruhn at 916-752-2774.

UPCOMING MEETINGS

May 3-6: "Biotechnology Applications in Space." University Park, PA. Penn State Biotechnology Institute. For course details call Patricia Phillips at 814-863-3650; Fax: 814-863-1357.

May 12: "Biotechnology and Food: A Public Issue for Extension Education." This is a national satellite program sponsored by the University of Wisconsin-Extension in cooperation with the University of California with funding by USDA. No downlink fee. For details call Tom Zinnen at 608-265-2420.

May 18-19: USDA's ABRAC meeting **CANCELLED**. Call 703-235-4419; Fax: 703-235-4429.

May 23-24: "NABC6: Agricultural Biotechnology and the Public Good." East Lansing, MI. For details write to NABC, 159 Biotechnology Bldg., Cornell University, Ithaca, NY 14850-2701; call 517-355-0123; Fax: 517-353-5406; e-mail: 18215emh@ibm.cl.msu.edu

May 25-28: "The Fifth Gatlinburg Symposium: Technology Transfer of Plant Biotechnology." Knoxville, TN. Organized by The Center for Legume Research at the University of Tennessee. Call Elaine Keener at 615-974-0250; Fax: 615-974-0264.

June 4-7: 1994 Congress on Cell and Tissue Culture: "Regulation of Cell and Tissue Differentiation." Research Triangle Park, NC. For details call 410-992-0946; Fax: 410-992-0949.

June 5-11: International Meeting on Chemical Engineering and Biotechnology. Frankfurt, Germany. Sponsored by IACHEM. For details write to IACHEM, e.V., P.O. Box 15 01 04, D-60061, Frankfurt am Main, Germany.

June 7-11: "The Pacific Rim Biotechnology Conference." San Diego, CA. Sponsored by the International Federation for the Advancement of Genetic Engineering and Biotechnology and Genetic Engineering News. Call 301-652-3072; Fax: 301-652-4951.

June 9: Symposium on "Basic and Applied Aspects of Aquatic Biotechnology Research." Windsor, Ontario, Canada. Takes place at the International Association of Great Lakes Research Annual Meeting, June 5-9. For details contact Jeffrey Ram, Wayne State University, Detroit, MI 48201; or send a fax to 313-577-5494.

June 18-23: "Molecular Genetics and Ecology of Pesticide Resistance. Big Sky, Montana. Sponsored by the American Chemical Society. Call 202-872-6286; Fax: 202-872-6128.

June 19-25: International Association for Genetics in Aquaculture, 5th Symposium. Halifax, Canada. Write to Pamela Gaines, Marine Gene Probe Lab., Biology Dept., Dalhousie Univ., Halifax, NS B3H 4J1, Canada.

June 22-25: First International Conference on Risk Assessment Methodology. College Park, MD. Sponsored by USDA, EPA, and Environment Canada. Call Maury Levin at 301-405-1056 or 301-405-4560; Fax: 301-314-9032.

June 25-28: "Second International Weed Control Congress." Copenhagen, Denmark. Co-sponsored by the International Weed Science Society and the European Weed Research Society. For details write to ICS, International Conference Services A/S, Strandvejen 171, P.O. Box 41, DK-2900, Hellerup, Denmark.

June 26-July 1: Genetics of Industrial Microorganisms, 7th International Symposium. Montreal, Canada. Write to Symposium Secretariat, GIM '94, National Research Council. Canada, Ottawa, Ontario K1A 0R6, Canada.

June 27-July 1: "Genetic Engineering of Plant Secondary Metabolism." Write Gary Kuroki, DNA Plant Technology Corp., 6701 San Pablo Ave., Oakland, CA 94608; Fax: 510-547-2817. ✓

July 3-8: "Seventh International Congress of Bacteriology and Applied Microbiology Division and the Mycology Division." Prague, Czech Republic. Sponsored by the Czechoslovak Society for Microbiology. For details write to SCS Travel Agency Ltd., IUMS Congresses '94, Boticka 4, 128 00 Prague 2, Czech Republic; or call 42 2 297 698; Fax: 42 2 299 955.

July 4-6: Biotech '94. 2nd UK Congress of Biotechnology. Brighton, UK. Call 44-0788-578-214; Fax: 44-0788-577-182. ✓ *correct*

July 17-24: Genetics and Molecular Biology of Plant Nutrition, 5th International Symposium. Davis, CA. Call 916-752-1711; Fax: 916-752-4361.

Aug. 6-10: American Phytopathological Society Annual Meeting. Albuquerque, New Mexico. Write to APS, 3340 Pilot Knob Rd., St. Paul, MN 55121.

Aug. 8-12: International Marine Biotechnology Conference '94. Tromso, Norway. For details write to Harlyn O. Halvorson, Director, Policy Center for Marine Bioscience and Technology, University of Massachusetts Dartmouth, Dartmouth, MA 02747-2300; Fax: 508-999-8901.

Aug. 15-19: A course on fermentation technology. Sponsored by the Massachusetts Institute of Technology, Cambridge, MA. Contact Arnold Demain at 617-253-1711; Fax: 617-253-8550; E-mail: demain@mit.edu

NOTES

Biotechnology Notes is written by Marti Asner, public affairs specialist in USDA's Office of Agricultural Biotechnology. Any comments or suggestions may be sent to USDA/OAB, Room 1001, Rosslyn Plaza-E, 14th and Independence Ave., S.W., Washington, DC 20250-2200. Telephone: 703-235-4419; Fax: 703-235-4429; e-mail: masner@csrs.esusda.gov. This news publication is also accessible on Internet via Gopher.

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